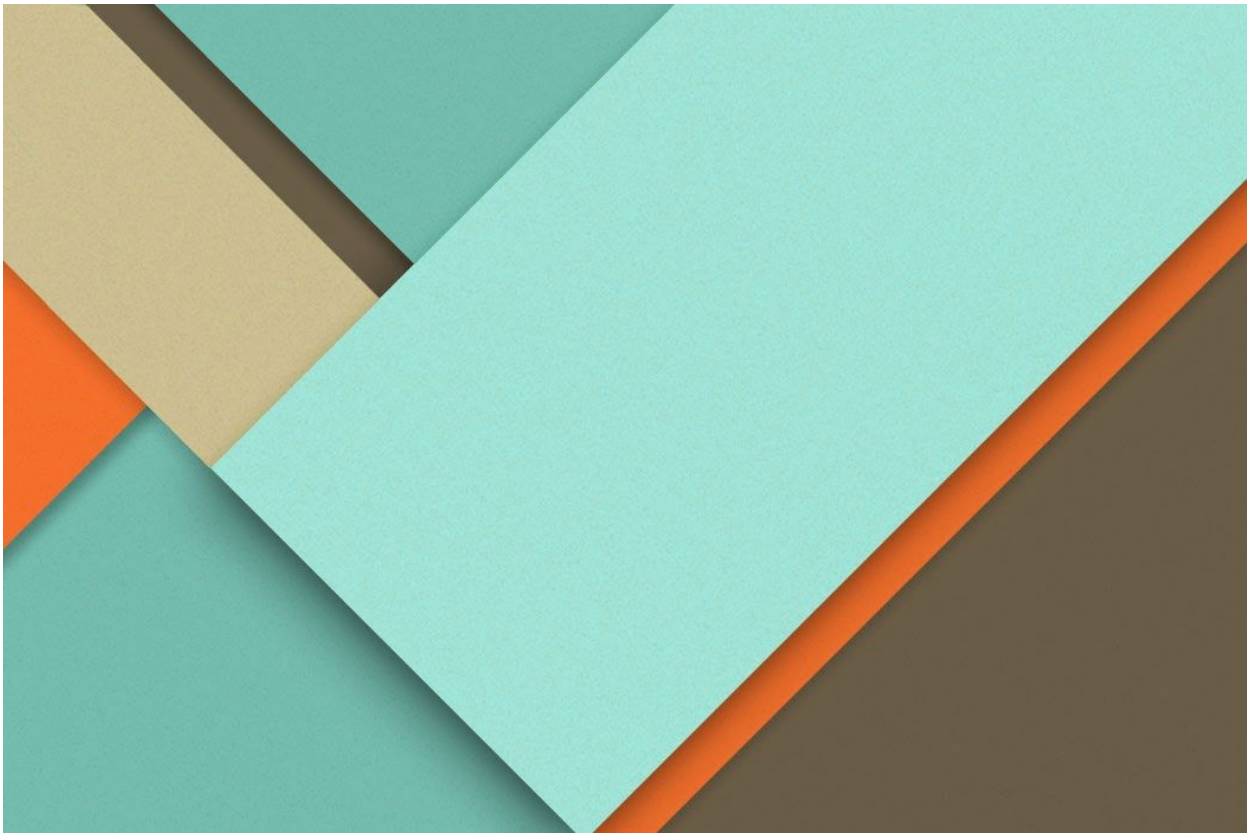

Database and Functional Requirements

Data and Applications Project Phase-1

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Overview

We have designed a database for a cafeteria as a mini-world which includes everyone from staff working at the cafeteria to the customers who come to eat.

End-User

The end-user of our database will be a team managing a cafeteria.

Goals

1. Our goal is to design a database for a cafeteria which stores data about its staff members, customers, food items, orders and a few small details.
2. The database also manages receiving orders from customers and everything that happens from customers giving an order to the ordered food item going to their palette.

Database Requirements

1. Entities and their Attribute

I. Staff

- Staff_id (primary key)
- First Name
- Last Name
- Name (composite attribute, combining First Name and Last Name)
- Category (Chef / Waiter / Other)
- Contact_no (Multivalued attribute)
- Email
- Address
- DOB
- Age (Derived from DOB)

II. Staff Associate (weak entity)

- Staff_id (foreign key)

- First Name
- Last Name
- Name (composite attribute, combining First Name and Last Name)
- Contact_no
- Address

III. Chef (subclass of Staff)

- Staff_id
- Speciality (Multivalued attribute)
- Work Experience

IV. Waiter (subclass of Staff)

- Staff_id
- Proficient_languages (Multivalued attribute)

V. Salary (weak entity)

- Staff_id (foreign key)
- Base_salary
- Bonus
- Deductions
- Total_Salary (Calculated as Base_salary + Bonus - Deductions)

VI. Menu

- Food_id (primary key)
- Name
- Category
- About
- Price
- Rating (Constrained between 1 and 5)
- No_of_times_ordered

VII. Customer

- Customer_id (primary key)
- Name
- Contact_no

VIII. Order

- Invoice_id
- Food_id

- Order_id (composite primary key made by combining Invoice_id and Food_id)
- Quantity
- Unit Price
- Discount
- Staff_id (Denotes the Chef that made that Food item)
- Rating

IX. Complete Order Info

- Invoice_id (primary key)
- Table_no
- Customer_id
- Time
- Quantity
- Total_Amount
- Status (Serving / Paid)
- Payment_id

X. Payment

- Payment_id (primary key)
- Invoice_id
- Amount
- Payment_portal (eg. Cash / Debit Card / Credit Card / Paytm / etc.)

2. Relationships

I. Serving (Waiter (1,n) -- (1,1) Order)

- Waiter is serving an order

II. Ordering (Customer (1,n) -- (1,m) Menu)

- Customer is placing order from Menu

III. Preparing (Chef (1,n) -- (1,1) Order)

- Chef is preparing order

IV. Manages (Manager (1,n) -- (1,1) Staff)

- Manager manages other staff

V. Generating E-invoice
- Generating E-invoice using customer details, order details and payment details (**4-degree relation** between Customer, Order, Payment and Complete Order Info)

Functional Requirements

I. Add / Remove / Update Staff Related Details

II. Add / Remove / Update Food item Details

III. Add / Update Customer Details

IV. Calculate total Salary

V. Change order Status in Invoice

VI. Calculate average rating of food item

VII. Calculate total price

VIII. Calculate discount

IX. Search for food item by Name

X. Search for food item by category

XI. Retrieve specific data about order / staff / food